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RMRS Rocky Mountain Remediation Services, L.L.C.
. . . protecting the environment
Rocky Flats Environmental Technology Site
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September 20, 1995

95-RF-07333
95-RM-ADM-00045-KH

Tim Hedahl
Kaiser-Hill Company, L. L. C.
Building 130C
Rocky Flats Environmental Technolgy Site

LAND DISPOSAL RESTRICTION (LDR) FEDERAL FACILITY COMPLIANCE AGREEMENT (FFCA) PROJECT MANAGER'S MEETING MINUTES FOR AUGUST 1995 - HJZ-021-95

A AR6 8/22/96

Action: Transmit Formal Meeting Minutes to the Rocky Flats Field Office

Enclosed, for your transmittal to the Department of Energy/Rocky Flats Field Office (DOE/RFFO), are the minutes from the August 1995, LDR FFCA Project Manager's meeting. Submittal of the minutes to the Colorado Department of Public Health and the Environment and the Environmental Protection Agency Region VIII is required under the terms of the May 10, 1991, LDR FFCA II. Because the minutes are required to be transmitted to the lead regulatory agency within ten days of the meeting date, an advance copy of the minutes was informally provided to S. A. Anderson, Kaiser-Hill Company, L. L. C. and R. J. DiSalvo, RFFO.

Questions and comments should be directed to Tim McKeown, Strategic & Integrated Planning at extension 9642.

H. J. Zeile
Executive Vice President

TJM:cal

Attachments:
As Stated (2)

cc:
S. A. Anderson — Kaiser-Hill Company, L. L. C., w/o Attachments (Bldg. 130C)
R. G. Card — " " " " " " (Bldg. 111)

11.020.1

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ADMIN RECORD

SW-A-004243

LAND DISPOSAL RESTRICTION
FEDERAL FACILITY COMPLIANCE AGREEMENT
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

PROJECT MANAGER'S MEETING MINUTES

Meeting Date:	August 23, 1995
Meeting Location:	Golf Room Second Floor, Main Terminal Building Jefferson County Airport

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The meeting was convened at 1:05 p.m.

INTRODUCTIONS:

The following personnel and organizations were represented at the meeting:

Fred Dowsett	Colorado Department of Public Health and the Environment (CDPHE)
Mark Aguilar	Environmental Protection Agency (EPA), Region VIII
Ruthie Zubajlo	EM-352, Department of Energy (DOE), Headquarters (HQ)
Rick DiSalvo	DOE, Rocky Flats Field Office (RFFO), Environmental Guidance Division (EGD)
Bill Prymak	DOE, RFFO, Waste Management Division (WMD)
Scott Anderson	Kaiser-Hill (K-H), Environmental Restoration/Waste Management and Integration (ER/WM & I)
John Fuller	K-H, Technology Integration
Peter Hixson	K-H, Community Relations
Joe Lucerna	K-H, Technology Integration
Karen Wiemelt	K-H, ER/WM & I
Pat Arnold	Rocky Mountain Remediation Services (RMRS), Strategic and Integrated Planning (SIP)
Leon Collins	RMRS, Environmental Restoration (ER)
Olga Erlich	RMRS, ER
Bob Griffis	RMRS, SIP
Laurette Hall	RMRS, Operations Support
Al Hohl	RMRS, SIP
Tom Lindsay	RMRS
Kathy London	RMRS, ER
Joe McKaig	RMRS, Operations Support

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Tim McKeown	RMRS, LDR Programs
Walt Pierce	RMRS, Operations Support
Frank Walker	RMRS, RCRA Permitting
Geoff Asmus	S. M. Stoller Corporation

The list of attendee signatures is provided as Attachment 1.

AGENDA:

The agenda for the meeting is provided as Attachment 2.

MEETING DISCUSSION:

PONDCRETE TREATMENT STRATEGY - B. Prymak, RFFO, opened the meeting with a discussion of the status of the FFC Act Compliance Order negotiations. It appears that an Order will be issued by the October 6 deadline and that the Site Treatment Plan (STP) will be approved by CDPHE as submitted with modifications. One of these modifications addresses the treatment strategy for pondcrete. CDPHE has determined that the strategy presented in the STP for pondcrete is inadequate to meet FFC Act requirements and has requested additional information regarding plans and schedules for achieving Land Disposal Restriction (LDR) compliance for this waste form.

The pondcrete treatment strategy presentation was divided into two sections: 1) a technical presentation regarding the treatment technologies, formulations, and alternatives for pondcrete; and 2) a discussion of the schedule for treatment proposed to be included in the STP.

L. Collins, RMRS, discussed the technical considerations regarding pondcrete treatment. Several treatment formulations for reprocessing pondcrete have been developed over the past several years. Each of the formulations has consisted of various mixtures of cement, lime, and fly ash, and have varied according to potential disposal site waste acceptance criteria (WAC). The WAC for the disposal facility is critical to the formulation because the parameters for the physical form of the treated waste is defined by the criteria. The distinction between LDR requirements and WAC requirements is that LDR requirements define the chemical composition of the final waste form, while WAC requirements generally focus on the physical form of the waste.

Previous formulations for Pondcrete treatment have focused on the WAC for offsite disposal locations, including the Nevada Test Site (NTS) and Envirocare of Utah. The most recent formulations were developed to meet the WAC for the proposed Operable Unit (OU)#4 Corrective Action Management Unit (CAMU). All of the formulations have produced final waste forms which meet LDR standards, but have varied in

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physical form. Approximately 35 to 40 different formulations were investigated and developed during the treatability studies which resulted in establishing an operating range for the amounts of lime, cement, and flyash to be mixed with size reduced pondcrete. A video that displayed the variety of physical forms that were achieved using different formulations was viewed by attendees.

Historically, DOE has pursued several treatment alternatives, but has not initiated treatment due to the risk of reprocessing treated, LDR-compliant waste to meet disposal site WAC. It is preferable to handle the pondcrete only once, sending the treated product to disposal immediately following treatment. One of the factors inhibiting the immediate reprocessing of pondcrete is that due to the volume increase involved, treated waste cannot be placed back into storage with the current RFETS storage capacities. Additional storage space would need to be constructed at substantial additional costs to store reprocessed pondcrete. This additional inventory stored onsite would also strain DOE's limited resources to maintain a larger storage area within stipulated RCRA requirements (i.e. monitoring costs, spill cleanups, etc.). These two economic elements provide the impetus for DOE to develop a more cost effective management strategy of handling the pondcrete only once while accomplishing both reprocessing and disposal.

Each of the plans for reprocessing have included size reduction of the pondcrete followed by mixing the crushed waste matrix with additives. A video depicting testing of the size reduction equipment was viewed by meeting attendees. Several surrogate pondcrete samples were created to represent the various physical forms expected. These surrogate waste forms (composed of both hard and viscous cement), including the plywood containers, were then placed in the size reduction equipment. The time required to size reduce the surrogate containers varied according to the form of the waste; the equipment appeared to size reduce the surrogates effectively. Depending on the physical form required for the treated waste product, up to three stages of size reduction may be required. As depicted in the video, the first stage would reduce the Pondcrete (including the containers) to less than 6 inches in diameter. Subsequent stages would reduce the waste to under 1 inch and under 1/2 inch, respectively. The proposed final stage of the reprocessing includes mixing the crushed waste material into a LDR compliant cementitious waste form which can either be cast into monoliths or friable material depending upon WAC requirements for disposal.

Current data suggests that the physical characteristics of the pondcrete vary from 30% to 70 % free water, and from 0 to 4.5 tons/square foot of compressive strength. Various amounts of cement, fly ash, and water will be added during reprocessing. A conceptual design has been completed for the reprocessing of pond sludge; much of that processing equipment can also be used to treat pondcrete. A "white paper" conceptual design was prepared for the OU4 CAMU treatment formulation, but the effort was suspended until treatment decisions could be made. Excerpts from the paper were provided to CDPHE during the meeting. It is apparent from the design

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study that the differences in the treatment trains for pond sludge and pondcrete center on the preparation and mixing modules. Most of the other treatment train components would be common to both pond sludge and pondcrete reprocessing.
F. Dowsett, CDPHE, asked what characterization data was used to determine that the reprocessed waste forms met LDR requirements, and what data was used to determine the physical characteristics of the pondcrete awaiting reprocessing. L. Collins, RMRS, responded that three different sampling events had been performed on the Pondcrete, and although the data is not compiled in any one document, approximately 45 samples have been taken. He added that although some of the Pondcrete containers may meet LDR requirements, they will likely need to be reprocessed to meet disposal facility WAC.

S. Anderson, K-H, distributed a handout that presented the proposed schedule for reprocessing of pondcrete (provided as Attachment 3). The handout was proposed as an addition to the Plan Volume of the STP. The target dates/milestones presented are tied to two interrelated events. The first event is the processing of pond sludge. Because some of the same equipment that will be used to treat pond sludge will be used to treat pondcrete, pond sludge treatment must be completed before Pondcrete reprocessing can begin. The second event is the permitting and construction of the onsite Resource Conservation and Recovery Act (RCRA) Subtitle C disposal cell. This activity will determine when the WAC for this disposal cell will be available. The WAC must be finalized prior to reprocessing the pondcrete to avoid the risk of having to treat the waste twice. A third indirectly related event is the permitting and construction of the consolidated CAMU. Because the treated pond sludge will be placed in this unit, the WAC must be defined in order to ensure proper treatment of the pond sludge. Treatment of pond sludge can not begin until the WAC is defined, and the treatment schedule for pond sludge is directly tied to the treatment schedule for pondcrete.

The categories of milestones and target dates proposed are based on the categories defined by DOE-HQ for inclusion in the STP. The first category is the submittal of RCRA permit modification applications to CDPHE for treatment of pondcrete. The proposed completion date for this milestone/target date is 30 days following initiation of construction of the Subtitle C cell or 120 days following the initiation of construction of the pond sludge processing system[1]. This date is based on the following assumptions: 1) once construction of the RCRA cell is initiated, the WAC will be finalized, and 2) the construction of the pond sludge processing system will be near completion after 120 days, and equipment that must be shared with the pondcrete

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[1] As defined on the handout, "or" indicates that: 1) multiple, independent decision points are reached prior to continuing with the next activity, 2) all conditions must be satisfied prior to proceeding, and 3) implicit with each completion date containing "or" is the statement "(whichever occurs later)". R. DiSalvo, RFFO, suggested that "or" be replaced with "and" for the completion dates.

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reprocessing system will be available when needed for pondcrete reprocessing.

The second category of milestone/target date is the procurement of contracts. The proposed completion date for this category is 30 days following receipt of the RCRA operating permit. This will allow sufficient information regarding permit restrictions to be provided to potential bidders. The procurement process will start before this date, but cannot be completed until all the permit information is available. The third category of milestone/target date is "initiate construction" The proposed completion date for this category is 30 days following procurement of contracts. The fourth category of milestone/target date, "commence system testing" is proposed to be complete 150 days following initiation of construction. It is assumed that construction will be complete before testing can begin. The fifth category of milestone/target date, "commence operations" is proposed to be completed 30 days following completion of system testing or 30 days following initiation of Subtitle C cell operation, or 30 days following completion of pond sludge processing. The proposed completion date allows for reprocessed Pondcrete to be disposed immediately following treatment (due to the tie to operation of the Subtitle C cell) and allows for shared equipment to be available (due to the tie to completion of pond sludge processing). The sixth category of milestone/target date is "submit a schedule for processing backlogged mixed wastes". The proposed completion date for this category is 30 days following commencement of operations.

R. DiSalvo, RFFO, stated that the proposed plan does not represent a significant change from that presented in the STP, but rather provides the state with more specific information. The critical tie for the proposed completion dates is to the design criteria and WAC that are being developed for the onsite disposal cell. Based on current estimates, Pondcrete reprocessing will begin before the year 2000. Current plans are to have a draft of the WAC for the CAMU by the end of October, with the WAC for the onsite disposal cell to be developed thereafter.

F. Dowsett stated that the underlying assumption is that disposal will occur onsite, and all of the schedules are linked to this assumption. S. Anderson, K-H, replied that if onsite disposal is not an option, there are alternatives available for offsite disposal. F. Dowsett then recommended that the focus should be on a cement based formulation to reprocess the pondcrete to create a friable material that could meet the WAC for Envirocare of Utah, as an alternative to onsite disposal.

OPTIONS ANALYSIS TEAM (OAT) UPDATE - B. Prymak, RFFO, presented an update of OAT activities since submittal of the STP. The OAT, composed of DOE Field and HQ personnel, originally met during STP preparation to examine the Draft Site Treatment Plans (DSTPs) from a national perspective and to identify potential redundancies and synergies. The OAT met again in the middle of August 1995 to re-examine the STP configuration and to identify the impacts of events that have occurred since publication of the STPs. The emphasis of the meeting was not to change the

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configuration presented in the STPs, but rather to evaluate the effects of recent commercialization and privatization efforts that have been initiated at several sites. DOE believes that significant cost savings can be realized by privatizing treatment. Since publication of the STPs, major treatment privatization efforts have been initiated at the Hanford Site, Oak Ridge, and the Idaho National Engineering Lab (INEL). The Hanford site is preparing a Request for Proposal (RFP) that will be released in FY96. This RFP action is pointed towards replacing the previously proposed DOE Waste Receiving and Processing Module IIA (WRAP IIA). A Cooperative Research and Development Agreement (CRADA) has been reached between INEL and Envirocare. Under the agreement, INEL and Envirocare will each contribute funds toward treatment studies to be performed at Envirocare for macroencapsulation of INEL mixed waste.

A feasibility study has recently been initiated at Rocky Flats for privatization of mixed waste treatment. P. Arnold, RMRS, said that the initial feasibility study is scheduled to be completed by the first part of October and will examine the issues, potential opportunities, and strategies regarding privatization.

Other discussion at the OAT meeting involved the possibility of other DOE sites providing combustible waste feed for the Toxic Substances Control Act (TSCA) Incinerator at the Oak Ridge site. After evaluating treatment selection data in the STPs submitted across the DOE complex, there may be available capacity within this treatment unit's planned operational schedule to accommodate additional waste materials from other DOE sites. RFFO and K-H have initiated an evaluation to provide additional combustible waste feed for this treatment unit. Possible waste form candidates include PCB-contaminated wastes from Rocky Flats.

F. Dowsett inquired as to the time frame for privatization of mixed waste treatment at the INEL. R. DiSalvo replied that a RFP was due to be issued at the end of October, with a decision by June of 1996.

MIXED WASTE FOCUS AREA UPDATE - S. Anderson distributed a presentation that described the activities of the Mixed Waste Focus Area (MWFA) (provided as Attachment 4). The MWFA evolved from previous DOE activities on the Mixed Waste Integrated Project (MWIP).

Specific goals of the MWFA include identifying the DOE sites' mixed waste management needs and establishing a strategy to meet those needs including directly funding specific technology development (TD) applications and facilitating the implementation of appropriate technologies to treat mixed wastes in a cost effective manner. The MWFA is tasked with assuring that TD is performed such that it will serve the highest priority needs of the DOE complex. The MWFA emphasizes a "systems analysis" approach into the TD program to resolve common problems with similar waste streams experienced by many sites across the complex. The MWFA has

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grouped the mixed waste inventory at the sites into five groups; Wastewaters, Combustible Organics, Sludges/Soils, Debris/ Solids, and Unique Wastes. The MWFA has aggressive implementation goals including the demonstration of technologies by 1997 that will treat 90% of the current mixed waste inventory at all the sites. The first deliverable of the MWFA effort is the recommended technical baseline specifying the direction of technology development for Fiscal Year 1996 (FY96).

STATUS OF RCRA PERMIT APPLICATIONS - F. Walker, RMRS, discussed the status of Rocky Flats RCRA permit applications. The cyanide destruction RCRA Part B permit application, proposed as a Class I permit modification, was submitted to DOE by EG&G, but requires a new review by the K-H attorneys due to the transition to the new contracting team at RFETS. This review is currently underway, and the application is scheduled for return to DOE in September 1995 and then forwarded to CDPHE.

The Polymer Microencapsulation Research, Development, & Demonstration (RD&D) permit application has been through the public review period, and DOE is anticipating CDPHE approval of the application sometime in October 1995.

The Polymer Macroencapsulation permit application has been submitted to CDPHE. CDPHE has requested additional information, including a hazards analysis and an operating plan. These two documents have been completed and recently submitted to CDPHE. Also, the proposed location of the macroencapsulation operation has been moved from the Tent 10 Permacon to Building 777. It is anticipated that this application will receive CDPHE approval second quarter 1996.

R. DiSalvo inquired regarding future RCRA permit applications. T. McKeown, RMRS, replied that Mercury Stripping, Supercritical Carbon Dioxide Extraction, Silver Nitrate treatment, Acids treatment, and Catalytic Chemical Oxidation are all technologies under development and may be candidates for Treatability Study Exemptions (TSEs) or Research, Development, and Demonstration (RD&D) permit applications within the next six months to a year.

ADJOURNMENT

The meeting adjourned at 3:00 p.m.

Next meeting: 1:00 p.m.
Wednesday, September 27, 1995

Location: Main Terminal Building
Jefferson County Airport
Broomfield, CO

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ATTACHMENT 1

LDR FFCA-II
PROJECT MANAGER'S MEETING
ATTENDANCE ROSTER

MEETING LOCATION: Golf Rm., Jeffco Airport

TIME: 1:00 p.m. **DATE:** Aug. 23, 1995

ATTENDEE	ORGANIZATION	PHONE NUMBER
Brad Lovell	CDPHE	692-3342
Tim McKeown	RMRS, LDR Programs	966-9642
Rick DiSalvo	DOE RFFO FED	966-4765
Bill Rymak	DOE RFFO WMD	966-5979
Ruthie Zubajlo	DOE-HQ/EM-352	301-903-1549
Scott Anderson	Kaiser-Hill, ER/WMI	966-9645
Leon Collins	RMRS	966-6968
Kathy London	RMRS	966-8585
AL Hohl	RMRS S+IP	966-3767
Peter Hixson	Community Relations /ECA	966-9821
Tom Lindsay	RMRS	966-6985
Olga Erlich	RMRS	966-6957
Laurette Hall	RMRS	966-9639
Joe McKaig	RMRS	966-6531
Geoff Asmus	S.M. Stoller Corp.	546-4426
Bob Griffis	RMRS	966-4934
Karen Wiemelt	Kaiser-Hill-ER/WMI	966-9883
Walt Pierce	RMRS- Ops Support	966-7425
Pat Arnold	RMRS-	966-2056
John Fuller	K-H, Tech Int, Tech Proj	966-2280
Frank Walker	RMRS RCRA Permitting	966-6250, d3038
Joe Lucerna	K-H, Tech. Int.	966-7229
Mark Aguilar	EPA	293-0954

ATTACHMENT 2

LDR FFCA

MONTHLY PROJECT MANAGER'S MEETING

Wednesday, August 23, 1995

Golf Room
Second Floor, Main Terminal Building B-7
Jefferson County Airport
Broomfield, Colo. 80021

1:00 P.M.

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1. Pondcrete Treatment Strategy	*L. Collins/S. Anderson*
2. Options Analysis Team (OAT) Update	*W. Prymak*
3. Mixed Waste Focus Area Update	*S. Anderson*
4. Status of RCRA Permit Applications -Cyanide Destruction Part B Operating -Polymer Macroencapsulation RD&D -Polymer Microencapsulation RD&D	*F. Walker*
5. Other Discussion	*All*

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PROPOSAL FOR ADDITIONAL TEXT IN CHAPTER 3 OF THE PSTP COMPLIANCE PLAN VOLUME

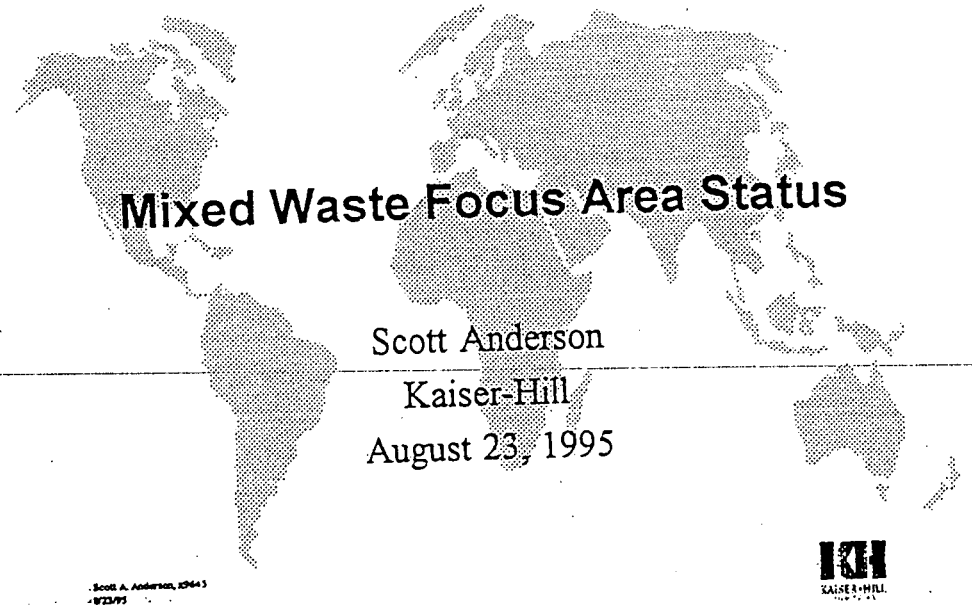
NOTE: the following to be added after Table 1, pg. 3-1 but preceeding section 3.2.

Additionally, based on the recent turn of events relative to System 6, the target dates identified in Table 1.a, "Schedule for System 6 Pond Sludge/Pondcrete Remix Treatment" shall apply. The mixed wastes presently proposed to be treated by System 6 are Solar Pond Sludges and Pondcrete.

Table 1.a: Schedule for System 6 Pond Sludge/Pondcrete Remix Treatment

Categories of Milestones/Target Dates:	Completion Date
a) Submit RCRA permit modification applications to CDPHE for Pondcrete Treatment	30 days following initiation of construction of Subtitle C cell or[1] 120 days following initiation of construction of Solar Pond Sludge Processing System
b) Procure contracts	30 days following receipt of RCRA treatment permit
c) Initiate construction	30 days following procurement of contracts
d) Commence systems testing	150 days following initiation of construction
e) Commence operations	30 days following completion of system testing or[1] 30 days following initiation of Subtitle C cell operation or[1] 30 days following completion of solar pond sludge processing
f) Submit a schedule for processing backlogged mixed wastes	30 days following commencement of operations

[1] "or" indicates the fact that multiple, independent decision points are reached prior to continuing with the next activitiy. All conditions must be satisfied prior to proceeding. Implicit with each completion date containing "or" is the statement "(whichever occurs later)".



Mixed Waste Focus Area Status

Scott Anderson
Kaiser-Hill
August 23, 1995

KH KAISER-HILL

Mission

Develop, demonstrate, and deliver technologies and systems that are responsive to customer needs and comply with regulatory requirements to retrieve, characterize, treat and dispose of all DOE mixed waste in a safe, timely, and cost effective manner

KH KAISER-HILL

Waste Type Teams

- Five teams established based on "Treatability Groups"

Waste Type Team	Lead Site
Wastewaters	Oak Ridge National Lab
Combustible Organics	Oak Ridge National Lab
Sludges/Soils	Rocky Flats Environmental Technology Site
Debris/Soils	Idaho National Engineering Lab
Unique Wastes	Los Alamos National Lab

Waste Type Teams (cont.)

- Waste Type Team Mission
  - ➢ Define EM customer needs and requirements
  - ➢ Develop strategy to meet needs
  - ➢ Initiate and facilitate the identification, selection, development, and implementation of appropriate technologies to implement strategy
  - ➢ Support MWFA mission through safe, efficient, and cost effective technology deployment

Waste Type Teams (cont.)

- Waste Type Team Goals:
  - ➢Meet customer needs
  - ➢Establish credible baseline
  - ➢Improve technology development efficiency
  - ➢Expedite technology implementation

Key Strategy Issues

- Integrate national perspective with Site specific needs
- Integrate MWFA with other focus areas (e.g., landfill, tanks, etc.)
- Incorporate "privatization"
- Incorporate systems analysis approach
- Prioritization of current and future technology development needs

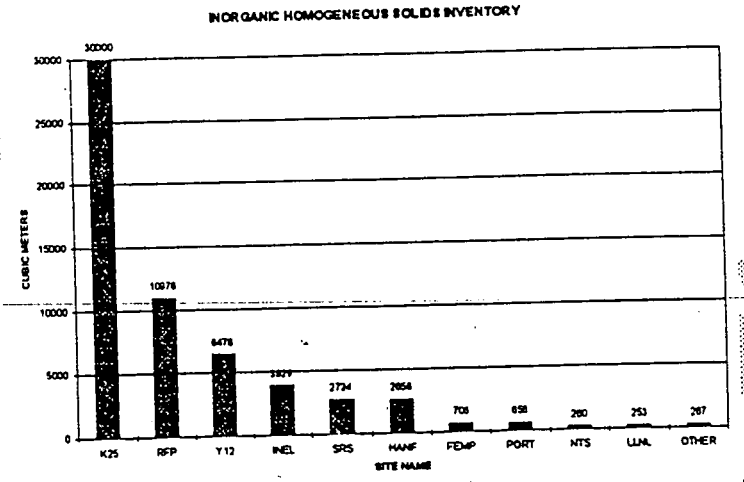
Key Strategy Issues (cont.)

- Demonstrate technologies to treat 90% of current mixed waste inventory by 1997
- Focus on versatile technologies with improved performance, reduced risk, and minimized life cycle cost

Short Term Activities

- Determine customer/Site needs
- Evaluate ongoing technology development efforts and alternative strategies
  - ➢Innovative technologies
  - ➢"Quick Wins"
  - ➢Privatization
- Prioritize activities
- Submit technical baseline

Sludges/Soils Waste Type Team



Scott A. Anderson, x9445
9/23/95

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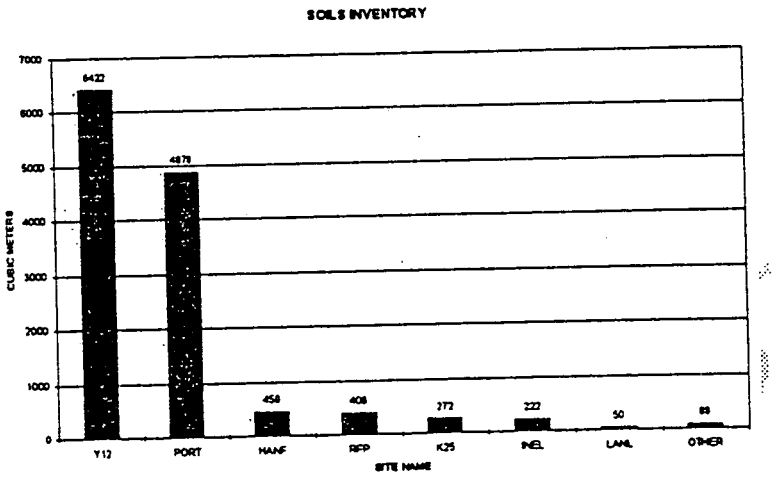
Sludges/Soils Waste Type Team



Scott A. Anderson, x9445
9/23/95

KAISER-HILL

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Sludges/Soils Waste Type Team

- Current Activities
  - ➢ Assemble Waste Type Team
  - ➢ Develop resource requirements
  - ➢ Determine Site needs
  - ➢ Develop evaluation criteria
  - ➢ Develop prioritization criteria
  - ➢ Provide recommendations to MWFA on FY '96 baseline

Scott A. Anderson, x9643
8/23/95

KAISER-HILL

Site Specific Needs

- Alignment of Site priorities with National priorities and vice-versa
- Involvement of customer, stakeholder and regulator
- Emphasis on bias for action

Scott A. Anderson, x9643
8/23/95

KAISER-HILL

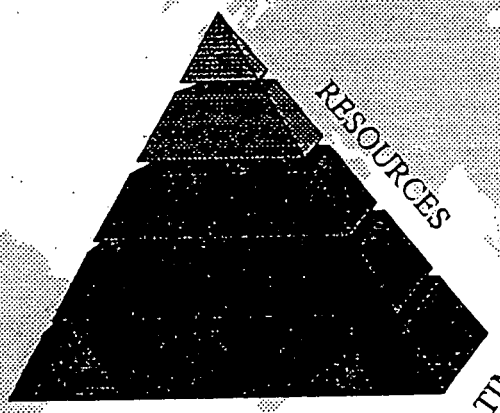
Site Specific Considerations

- Demonstrate scope within bounds of mixed waste needs
- Significance of activities relative to commercial technologies
- Technology sufficiently developed
- Alignment with Mixed Waste Focus Area strategy
- Customer demand
- Eliminate duplication across complex
- Encourage synergystic effects across complex

Scott A. Anderson, x3643
8/23/95

KAISER-HILL

COMPLIANCE "PYRAMID"



Scott A. Anderson, x3643
8/23/95

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18/18